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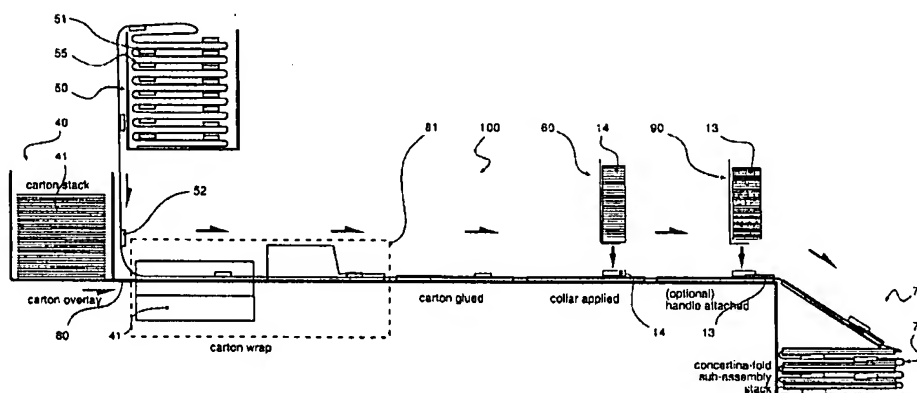
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: AUTOMATED BAG IN BOX ASSEMBLY & CONTENTS FILL



(57) **Abstract:** A BIB carton (150) conjoins a bag (12) with a carton (11) preparatory to carton fill, with an intervening locating collar (14) upon a bag neck upstand (52); an assembly and fill process brings successive individual cartons (41) into juxtaposition with a bag (51) in a continuous bag web (55), using the neck (52) for alignment and registration; a locating retention collar (14) is applied to secure bag neck (52) to carton (41), to create a sub-assembly web stack (71) of conjoined flat-pack BIB cartons (20); an inflation (test) station (110) retrieves these sub-assemblies (20) and inflates/fills them via successive valve caps (111) secured to collars (14); bag (51) inflation / fill causes carton (41) formation around it, before a taping machine closes and seals top (56, 42, 48) and bottom (57, 58) carton flaps.

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INTERNATIONAL SEARCH REPORT

Inter .pplication No
PC1/GBZ005/000570

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B65D77/06 B31B7/00 B65B3/02 B65B3/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B65D B31B B65B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 90 06 586 U1 (SCHUETZ-WERKE GMBH & CO KG, 5418 SELTERS, DE) 16 August 1990 (1990-08-16) the whole document	1,2,7-9, 11,12, 16-18
Y		4,14,15, 19,20, 22,23, 25,26, 30,31
X	WO 96/01766 A (RINGER, DON) 25 January 1996 (1996-01-25) page 9, line 15 - page 10; figures 1-7	1,6,8,9, 11,16,17
Y	US 4 560 090 A (OKUSHITA ET AL) 24 December 1985 (1985-12-24) column 11, lines 4-18; figure 19	4,14
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

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"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

23 June 2005

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22.09.2005

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INTERNATIONAL SEARCH REPORT

International Application No
PCT 2005/000570

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	PATENT ABSTRACTS OF JAPAN vol. 012, no. 066 (P-671), 27 February 1988 (1988-02-27) & JP 62 206427 A (SUNTORY LTD), 10 September 1987 (1987-09-10) abstract	15
Y	PATENT ABSTRACTS OF JAPAN vol. 2002, no. 09, 4 September 2002 (2002-09-04) & JP 2002 145322 A (TOHOKU RICOH CO LTD), 22 May 2002 (2002-05-22) abstract	19
Y	US 2003/160092 A1 (PHILIPS NICHOLAS A ET AL) 28 August 2003 (2003-08-28) paragraph [0033]; figure 1	20
Y	US 3 599 840 A (CHARLES A. SPEAS) 17 August 1971 (1971-08-17) abstract; figures 1-3	23
Y	WO 01/21496 A (SCHOLLE CORPORATION; SAVAGE, CHESTER; HSU, JOSEPH, C; FAYDOCK, JAMES) 29 March 2001 (2001-03-29) the whole document	22,30,31
Y	US 6 378 733 B1 (BOONZAIR GRAHAM HARRY) 30 April 2002 (2002-04-30) column 2, lines 47-53	25,26
A	GB 959 306 A (GERALD VERE FORREST) 27 May 1964 (1964-05-27) page 3, lines 27-43; figures 1-4	16
P,X	GB 2 403 467 A (STEPHENSON) 5 January 2005 (2005-01-05) the whole document	1,3,11, 13, 16-18, 23,24

INTERNATIONAL SEARCH REPORT

In international application No.
:T/GB2005/000570

Box II Observations where certain claims were found unsearchable (Continuation of Item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 10
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of Item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-9, 11-26, 30, 31

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.: 10

rULE 6.2 pct

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-9, 11-26, 30, 31

BIB carton assembly method and machine and carton made thereby, comprising wrapping a carton around a bag.

2. claims: 27-29,32,33,38

BIB carton assembly method and machine, comprising inserting a collar and a bag into said opening.

3. claim: 34

BIB carton with impact release capture mounting.

4. claims: 35,36

BIB assembly with impact cushion bag

- 5.. claim: 37

BIB assembly with multiple bags

INTERNATIONAL SEARCH REPORT

Inter ... Application No
PC 2005/000570

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